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DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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DISEASES of the NERVOUS SYSTEM

(PUBLISHED MONTHLY)

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

EDITORIAL COMMENT

The Medical Officer

Physicians of the United States have responded admirably to the call of the armed forces for medical officers. Some states, especially the more sparcely settled ones, have over-subscribed their quota. Recent press reports caused a certain amount of anxiety among the people because it was intimated that enlistment of doctors had seriously depleted the number of physicians who would be available to the civilian population. There is a general understanding now that no further enlistment will be accepted for a period of time, temporarily at least, allaying any fear about the adequacy of medical care.

Nevertheless, many physicians continue to be in doubt over their eventual availability for service. Likewise, speculation is rife amongst this group concerning the things which may be expected upon becoming a medical officer. Perhaps the rank which can be secured is the foremost question in the minds of each one. It is only natural for each doctor to desire the highest possible commission. All too often, the wish is not granted and the physician is disappointed. For a time commissions in the higher ranks were issued liberally; now, however, the requirements have become more exacting. In a few instances familiar to the editorial staff, commissions have been issued in a lower grade even though the applicant fulfilled all prescribed regulations.

In a measure, the specialized needs of the various branches of the armed forces accounts for this. Every physician is entitled to the recognition due his standing in civil life as well as the rewards incident to the sacrifices made by surrendering that position. Professional ability alone does not make a good medical officer. Frequently an experienced first lieutenant is more valuable to the service than the highly trained specialist who has just been inducted.

There are several explanations for the apparent discrepancy. In the first place there is a lessening in the importance attached to individuality with each branch stressing the idea of unity of thought and action. Regimentation and group cooperation are essential to the development of an efficient fighting force. Another significant reason is the dual role which the medical officer must assume. He is both a physician in the true sense of the word, and also a medical administrator. In the latter role, the medical officer must know the rather complicated routines of procedure and possess, in addition, some tactical knowledge. Unfortunately the much bandied term "red tape" is a reality, and experience is the only way to solve its intricacies. There is no other substitute.

The average physician coming in from civil life is deficient in nearly all of these lines. After a short term of service most doctors come to appreciate such things which, in turn, helps them to secure a new philosophy of living. Otherwise, there is disappointment and discontent. In order to be happy or contented it is absolutely necessary for each medical officer to acquire that viewpoint. The successful officer will accept gracefully the loss of individualism with its corresponding freedom of action in order that the primary objectives of the country's efforts will be reached; to wit, a fighting force which will bring an early end to the war. Any physician who contemplates enlistment will profit if these few points are kept in mind.

Titus H. Harris, M.D.

Choreo-Athetosis and Athetosis*

A Clinico-Pathological Report**

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The lesions responsible for the production of chorea and athetosis and other arrhythmias have been assigned by most investigators to the basal ganglia, notably to the putamen and caudate nuclei, the globus pallidus, the thalamus and rarely to the superior cerebellar peduncle. In my previous papers on this problem I have fully discussed the entire literature on the subject.[1,2] Pathological findings in other areas obscure the picture because the lesions are usually scattered, and not limited to the basal ganglia, both in inflammatory and degenerative states.

Experimental evidence is not conclusive because it involves either part of or the whole organ without distinction to the particular cell elements, especially with regard to the neo-striatum, where we have two distinct types of cells. Whatever other systems may be implicated, my two cases present definite evidence that in athetosis only large cells of the neo-striatum are damaged, while in the case of choreo-athetosis both large and small cells are affected. I may also call attention to the fact that in the various types of chorea we have extensive involvement of the small cells mainly, the large ones are slightly, if at all, altered. The destruction of the cells in the neo-striatum produces a defective coordination between them and other motor tracts in the brain, emanating from the areas four and six which are supposed to be extra-pyramidal in distribution. It has been shown by Putnam,[3] Bucy[4] and Foerster[5] that by eliminating the areas four and six or by cutting the anterior tracts of the cord, the involuntary movements are greatly ameliorated or even completely stopped. After these preliminary remarks I shall now proceed with the report of the two cases.

Case 1, Choreo-athetosis—G. P., f., 38 yrs. Admitted 1936, died June 16, 1939.

Diagnosis: Choreo-athetosis involving face, arms and legs, supposed to have been present ever since birth.

Previous History—Measles, chicken pox and scarlet fever in childhood without sequelae. Began to walk at age of eight and talk at age of 10; started school at 14, graduated in the elementary at 20. Tuberculosis of the lungs diagnosed at St. Joseph's Hospital ten years before admission. X-ray did not reveal any tuberculous lesion. Influenza, 1929, ill for 2-3 months.

Family History—Father died at age of 38 of paresis. Mother died at 70. Four brothers died in infancy, cause unknown. Sister living and well.

Neurological Status—Pupils equal and regular, react promptly to light and accommodation. Fundi negative. Superficial and deep reflexes present with patellars rather feeble and slight ankle clonus bilaterally, more pronounced on the right side. Sensibility and motor power intact. Choreo-athetoid movements all over, predominantly in the upper extremities and muscles of the face. Speech involved. The muscular movements of the face, neck and upper extremities, on attempting any act, began to be slow, sinuous and rhythmical but soon became irregular, jerky, unsustained and bizarre. Extension and flexion appear simultaneously causing the peculiar arrhythmia, showing an impaired reciprocal innervation (Fig. 1). During sleep and at rest the movements disappear. Her intelligence was intact and of a rather high order. She was a profuse writer and learned to use the typewriter.

Laboratory findings were essentially negative.

Chordotomy was performed under avertin anesthesia by Dr. Ney on Sept. 30, 1938, cutting the anterior column on the right side, between approximately C2 and C4. She made an uneventful recovery.

The choreo-athetosis on the right side abated slightly, but there was a distinct motor weakness in the right upper and lower extremities which was not present before the operation. A complete cure was not effected.

*Read before the Joint Session of the New York Neurological Society and the Section of Neurology and Psychiatry of the New York Academy of Medicine on November 11, 1941.

**Neurological and Pathological Services of the Neurological Hospital, Welfare Island, New York.

At the request of the patient a chordotomy on the left side was performed on June 8, 1939. Four days later she developed wound infection and pulmonary edema with consolidation, temperature rose constantly and she expired on the 16th.

Fig. 1.
Case 1.—Choreo-Athetosis.

Autopsy was performed six hours after death. The weight of the brain was 1170 grams. There were no gross abnormalities of the meninges. Surface revealed no softenings or masses or hemorrhages. The vessels of the brain were markedly congested; no signs of atherosclerosis noted. Brain and cord were preserved in 10 per cent formalin for further study.

The abdominal viscera presented no abnormality.

Sections of all cortical areas, basal ganglia, cerebellum, brain stem and cord were stained with Weigert's myelin sheath stain, hematoxylineosin, cresyl violet, Nissl, van Gieson and Prussian blue for iron.

Microscopic Examination—Sections of the brain of all areas show no disturbance of the cyto-architectonic arrangement. The ganglion cells are fairly well preserved in all layers. There is a slight glia reaction with large cell bodies and coarse fibers in the lower strata of the gray matter. Basal ganglia—the caudate nucleus and putamen are markedly atrophic on both sides alike, with a well preserved consistency. There is an intense infiltration of amyloid bodies and a consider-

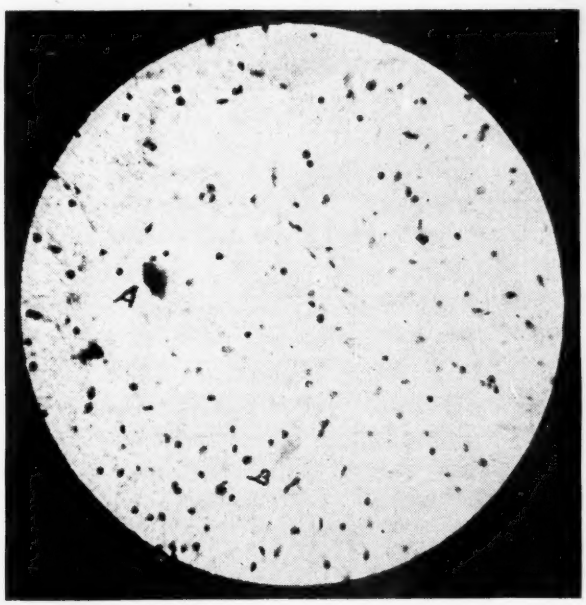

Fig. 3.

Case 1.—OC.—25x peri. Ob.—10x. Hematoxylin Eosin Stain Neo-striatum showing extreme paucity of small cells, most of them show only remaining nuclei. Two large cells. A. Markedly pycnotic, shrunken and lack of differentiation between cytoplasm and nucleus. B. Mere large shadow cell.

able status cribratus, with a marked paucity of the small cells throughout and partial degeneration of those left behind (Fig. 3). All large cells show considerable destruction throughout.

In the globus pallidus we find the cells fairly intact. The fibrous neuroglia of the corpus striatum is much increased in amount, is coarse and fibrous in character and most abundant in those parts where the loss of cells is greatest. The nuclei are much larger than those of normal neuroglia, which is much increased in number. The ansa lenticularis is fairly intact.

There are very few cells left in the red nucleus bilaterally and those present are pycnotic, undifferentiated, stain evenly and some are mere shadow cells. The hypothalamic body and substantia nigra with its reticular portion show no alteration. The thalamus is well preserved and its cells intact. The ependemya of the lateral ventricles show no pathological change.

In the cerebellum, there are a few scattered foci of destruction of the granular layers and a considerable loss of Purkinje cells. The dentate nuclei show a considerable loss of cells and those present contain considerable amount of lipoid substance with a faintly staining nucleus.

The pons shows no changes anywhere. In the medulla the olives are shrunken, poor in cells and those remaining are pycnotic, staining evenly.

In the spinal cord, the anterior horns of the cervical and thoracic segments show a marked paucity of cells bilaterally, much more pronounced on the right than on the left side. The surrounding fibrous tissues at the lower and lateral borders of the anterior horns show marked defects, particularly on the right side, probably of a congenital nature since no glia tissue displaces them. The anterior horn cells in the lumbar and lower segments are quite numerous and the surrounding tissues are normal.

Case 2, Athetosis—H. S.

He was admitted to the hospital in 1918 at the age of 55. A satisfactory history was unobtainable because of the patient's low mentality. It was elicited that his infirmity was congenital and that he walked with great difficulty and clumsiness when quite young. He became much worse in the previous 25 years. At the time of admission he could not stand up or walk but could crawl on all fours with difficulty. His grotesque movements of arms, legs and face were of the athetoid type only when he attempted any act and became very severe when excited. There was also definite motor weakness in his arms and legs and his speech was markedly affected so that only a few remarks could be elicited with great difficulty.

Previous and *Family Histories* could not be elicited.

Neurological Status—Pupils equal and regular, respond promptly to light and accommodation. Fundi negative. Superficial and deep reflexes were exaggerated with the exception of the left supra-patellar, abdominals and right cremasteric, which were absent. The patellars and Achilles could not be elicited because of marked contractures. There was a marked right patellar clonus with a questionable Babinski and ankle clonus. Sensibility was intact. Motor power was depleted. There was a definite right hemiplegia including a central facial paralysis and a marked dimunition of motor strength in the left upper and lower extremities. He was able to feed himself with the left hand in a limited way. The athetoid movements were marked bilaterally in all extremities, facial muscles and muscles of the neck involving the speech, so that it became quite unintelligible. These athetoid movements consisted of slow, sinuous, rhythmical movements which blended with one another without disorganization of reciprocal innervations. The muscle tonus was that of a hyperkinesis. During sleep these movements ceased (Fig. 2). There was some difficulty in swallowing.

Mentally, he was of a very low intelligence and his attention was rather poor. There were contractures of fingers of the right hand and muscles in both hip and knee joints, a kypho-scoliosis of the spine and considerable atrophy of the muscles of the left lower extremity.

Laboratory findings were essentially negative.

April 15, 1936, he developed broncho-pneumonia and expired April 20, 1936.

Autopsy was performed five days after according to the rules of the Department of Hospitals in unclaimed cases. The brain, however, was injected immediately after death

with 50 cc. of a 10 per cent solution of formalin.

Macroscopic Examination—The brain and cerebellum appeared atrophic.

Microscopic Examination—Brain: The meninges show slight thickening but no cellular infiltration. The marginal layer is greatly increased in width showing a marked astrocytic fibrillar reaction. The general cytological architecture of the cortex is maintained but there is a marked absence of small ganglion cells in the different cortical layers throughout. However, there is no astrocytic replacement of these cells, merely a congenital absence. The ones largely affected are the small ganglion cells. In some areas these are completely absent. The large and small pyramidal cells appear in normal numbers but show a pathological change. There is a very slight differentiation between nucleus and cytoplasm. The Nissl bodies are completely replaced by a granular cytoplasm. The cells as a whole are retracted and strongly chromatic. The white matter of the corona radiata and internal capsule appear unaffected.

Neo-Striatum—The small cells of the putamen and caudate are normal in quantity and quality, while all the large cells are in various processes of disintegration (Fig. 4). Some are mere shadow cells, some are shrunken with only the nucleus present and others are pycnotic, staining deeply and the cytoplasm is not differentiated from the nucleus.

Globus Pallidus—All the cells are intact but there is a large infiltration of amyloid-like bodies of various shapes and sizes.

Sections through the pons show depigmentation of the substantia nigra to a slight extent. In the red nucleus bilaterally most cells are affected. They are pycnotic and shrunken. Here and there a large, fairly normal cell appears. The peduncles are normal at this level.

Medulla—The inferior olives present very few changes which we usually find in senility.

Cerebellum—Shows gliosis of the molecular layer. The Purkinje cells are reduced in numbers in some places with changes starting in adjacent areas. The white matter shows large areas of demyelinization with fragmentation of the fibers.

In the dentate nuclei the cells are pycnotic

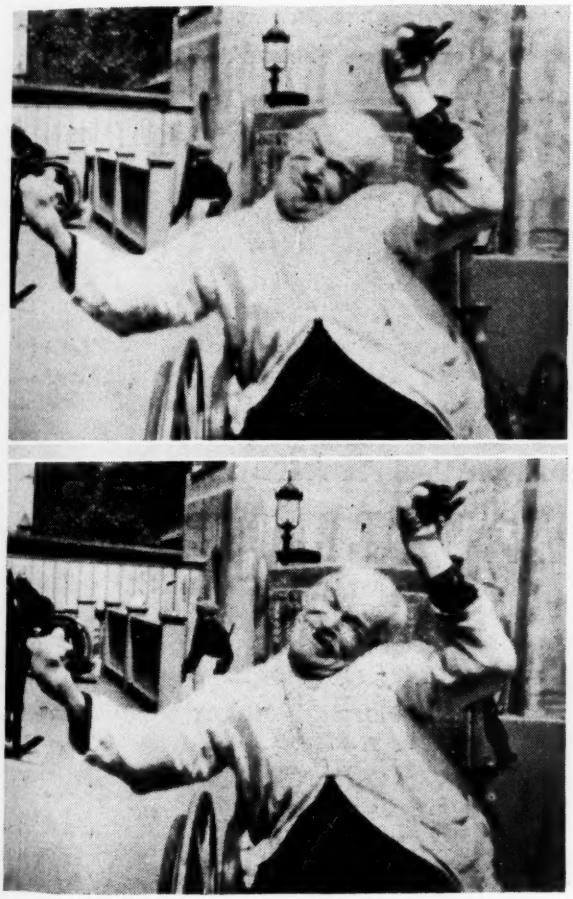

Fig. 2.
Case 2.—Athetosis.

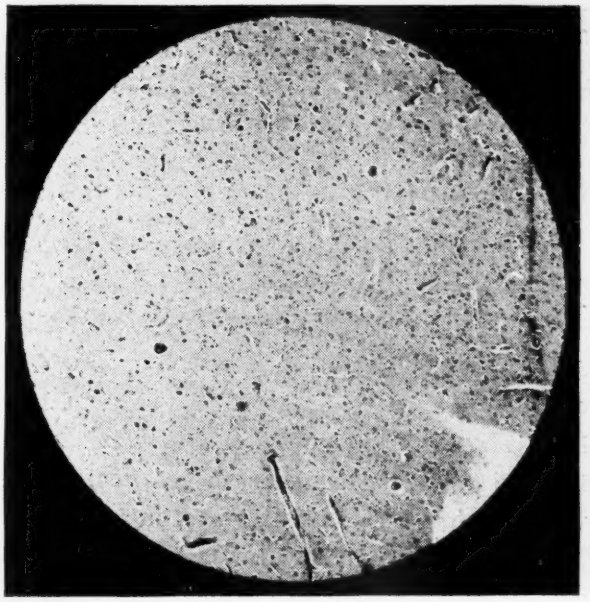

Fig. 4.

Case 2.—OC.—25x peri. Ob.—10x. Hematoxylin Eosin Stain Neo-striatum showing a farily normal number and quality of small cells. Three large cells, shrunken, pycnotic, fenestrated with marked dilatation of the pericellular spaces. In addition marked etat criblé of Vogt's.

in some places and the others are filled with lypoid.

Spinal Cord—Shows no changes throughout.

Comment

The most destructive changes in order of their severity in both cases were noticed in the neo-striatum, the red nucleus, the dentate nuclei of the cerebellum, and to some extent in the molecular layer of the cerebellar cortex as well as adjacent areas of the white substance and the olivary bodies in Case 1 and also in Case 2. While the large cells only in the neo-striatum of the athetosis case were destroyed, in the case of choreo-athetosis the small cells as well as the larger ones of the neo-striatum suffered considerable destructive changes. The white substance of the brain of both cases in all areas showed no changes. The cortex of Case 1 was fairly normal in cell content and architecture but the cortex in the second case did show changes in the small ganglion cells, and while the large and small pyramidal cells appear normal numerically, they do show pathological changes. It is impossible to incriminate any particular area of the extra-pyramidal system yet it is noteworthy that in the case of athetosis only the large cells of the neo-striatum are involved, while in the choreo-athetosis both the large and the small cells are involved. In the literature, as well as in my previously reported cases,[1,2] we find that in chorea only the small cells of the striatum show destructive changes and in the case of choreo-athetosis we find significantly the small as well as the large cells affected. It would seem to me that the neo-striatum is bearing the brunt of the affection and probably are primarily and mainly responsible for the symptoms.

Conclusion—A study of a case of choreo-athetosis and one of athetosis is presented from the clinical and pathological aspect.

The author acknowledges gratefully the assistance rendered by Dr. Julius Rosenthal, pathologist of the Neurological Hospital, Welfare Island, New York, and Dr. A. Lieber, the neuropathologist, in preparation of the material for study.

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Newsnotes

The Committee on War Psychiatry of the American Psychiatric Association has brought out a publication dealing with the steps which have been taken for the maintenance and improvement of civilian mental health in various types of community throughout the country. The procedures used in state-wide areas, large cities and metropolitan districts, and in small towns and rural areas have been assembled and their fundamental principles have been described.

This publication may be obtained without cost on application. More detailed information on particular aspects of civilian mental health may be obtained by request. These outlines may be obtained from Dr. T. Raphael, University of Michigan, Ann Arbor, Michigan; Dr. F. H. Sleeper, 100 Nashua Street, Boston, Massachusetts; and from Dr. D. Ewen Cameron, Albany Hospital, Albany, New York.

More fully detailed accounts of special aspects of civilian mental health in rural areas may be obtained from Dr. Raphael; in state-wide areas from Dr. Sleeper; and in large cities and metropolitan areas from Dr. Cameron.

Some Relationships of Diagnostic Perspective to Therapeutic Result*

THOMAS J. HELDT, M.D.
Detroit, Michigan

Penetrating clarity of perspective in matters diagnostic is not easly acquired. There are so many modifying interrelationships. In the art and the science of purely linear perspective much depends on just where the observing eye is stationed. In diagnostic perspective the medical eye is often too rigidly focused. May this not be true of the eye of the specialist and the ultraspecialist?

Great alterations in common patterns of appearance and of action often escape detection and variations in relationships may give distorted deductions. Impairment of equilibration may make us stumble quite as much as unevenness of surface. Recently a 56-year-old carpenter was seen because a week previously he had fallen, receiving a considerable bump on the head. Distressing dizziness and an increasing consciousness of unsteadiness in gait and station alarmed him, especially because family responsibilities left no opportunity for "lay-off" or interruption of earnings. X-rays of the skull had been reported negative for fracture, and the last of three physicians consulted had advised that cerebral concussion might account for his symptoms, and, whether or not x-rays disclosed fracture, he had better go to bed to await further developments. Too stubborn in his attitude to accept this advice, he sought further examinations. A careful neurological examination revealed impacted cerumen in both ears with associated disturbance of vestibular function. Removal of the wax from his ears permitted him to return to work and within the subsequent week his symptoms gradually disappeared. It was clear that his fall was due to faulty function of vestibular organs, which then was the real cause of his symptoms instead of the bump on the head and the possible concussion. In other words, the condition of his inner ears was the cause of the fall. The fall was not the cause of his symptoms. All of which brought an "about face" in most of the interpersonal relationships in the case.

Why did not the previous examiners look into the ears of this patient? It is so easy to condemn these physicians. Yet, it is unfair to charge them with indifference, or even with lack of diagnostic acumen. For some reason or other they failed to obtain that perspective which enabled the neurologist to be of unmistakable assistance on a very simple basis.

The semantists may say we do not give adequate heed to the elementary physico-mathematical extensional expressions that are so fundamental in our interpersonal relationships. They emphasize that language with its words, signs, and all its symbols of verbalization and communication is the tool of diagnosis and of therapy in neuropsychiatry quite as much as the scalpel in surgery. Furthermore, since we neurologists and psychiatrists know all too little about language as such a tool how can we expect our confreres of other training to be proficient in its use. Even granting the importance of semasiology it would appear that general semantics, much as it may have to give, can do very little more than many of our other professional aids.

Let us review a more angular case. In presenting it, attention will be directed to the dental, neurosurgical, and neuropsychiatric perspectives.

C. L., a married woman of 30, was referred to the neurosurgeon because of, "Pain—both sides of face." The junior admitting physician records: "Patient felt quite well until February of 1938—following the extraction of two lower wisdom teeth. Attacks typical of tic started 3-4 days later—bilateral—much worse on right side. Any sudden noise, or something startling, cause flashing attacks of pain, very severe, radiating down temples into both jaws, leaving back of head very dull. No associated headaches, no nausea or vomiting. Attacks, often unilateral, usually last 3-4 days. Previously has had novocaine injections in mouth by dentist—gave absolute but only temporary relief. Former treatment: Novocaine blocks

*From the Division of Neuropsychiatry, Department of Medicine, Henry Ford Hospital, Detroit, Michigan. Read before the Central Neuropsychiatric Association, meeting in Detroit and Ann Arbor, Michigan, October 24 and 25, 1941.

—countless number; alcohol injections—8; many heat treatments. Food does not digest well; considerable gas; feels quite numb after alcohol injections. Both sides of face, especially the teeth, are extremely sensitive to temperature changes during spells. No trigger spots inside of mouth. Attacks usually begin about midnight. Injections in morning by dentist give relief until about noon. Contraceptives have been used as patient does not want to become pregnant until tic is treated. Admitted to Neuro-Surgical Service for treatment of tic douloreux."

Dental—The third molars erupted slowly and late. The associated discomfort brought the patient, a school teacher in a city some distance from her home, over the week-end to the thoughtful attention of a dentist in her home town. The two lower offending molars were extracted in February, and the other two in August. During the intervening months and later, the associated symptomatology increased. Almost weekly novocaine injections by the dentist seemed necessary. A course of chiropractic treatments during the following summer brought relief for two months. A physician in general practice also was consulted and visited a number of times, but "he insisted that there was nothing wrong. He even said I was crazy, and told the other doctors that all I wanted was to get out of my teaching." On that basis, the dentist, and not the doctor, continued as her medical samaritan. Her symptoms grew apace, and in October of the next year, she was referred to the neurosurgeon of a diagnostic center in a neighboring city.

Neurosurgeon—After a number of examinations and reviews, the neurosurgeon concluded —trigeminal neuralgia (?), the question mark because the consulting psychiatrist had mentioned that there also was present a psychoneurosis in which anxiety and hysterical features were prominent. However, because of the relief obtained from alcohol injections, the neurosurgeon concluded that more were in order. During the next seven months, the patient received eight such injections bilaterally in the trigeminal nerves at, or near, the cranial foramina, and two alcoholic injections by way of the mouth. Failing to obtain permanent or adequate relief brought her to another neurosurgeon. This new surgeon not only carried out careful observations and examinations of his own, but also requested review by one of his colleagues, a neurologist.

The latter decided atypical facial pain, probably of the nature of a Sluder's syndrome, was present. However, he also was mindful of the psychoneurotic embellishments. The neurosurgeon next availed himself of the services of the nose and throat man who, after applying medicated and nonmedicated pledgets to the sphenopalatine ganglion, concluded that the psychic components were greater than the somatic. Since bilateral sensory root section of the trigeminal nerves had been under discussion, and since the patient had come for neurosurgical intervention, both she and her husband did not take very kindly to any explanation on a psychogenic basis. The behavior of the patient became increasingly refractory, and through that very conduct brought upon herself the attention of the neuropsychiatrist.

Neuropsychiatrist—When the neuropsychiatrist entered her hospital room, he was met by one long, haughty look, and the declaration "I'm going home—I'm not crazy, and you can't hold me." Her behavior clearly portrayed the underlying anxiety hysteria. With that deduction made, the psychiatrist pronounced "If you want to go home, there is no reason why you cannot. I'll see to it." The neurosurgeon, husband, and other attending physicians were then advised to permit the patient to return to her home on the assumption that if there was not too much solicitation for her return, she would with certainty be back at the hospital within forty-eight hours. She was, and ready to have the neuropsychiatrist direct her further care. During the several hospital days necessary to establish further rapport with the patient, she was permitted to do pretty well as she pleased. There was then no difficulty in persuading her to accept sodium amytal narcosis of intensive type. During this narcosis, the psychiatric determinant was elicited. Misplaced affective cravings, in which the dentist and not the husband was the central figure, were the gist of these disclosures. "Neither the husband nor the dentist know anything about it, and they must not know, nor must the psychiatrist know the identity of the dentist." Nevertheless, the mental catharsis thus far obtained was highly remedial. There was no more reference to facial pain, and her gen-

eral behavior was now one of wholesome well being. A vacation and a period of readjustment were outlined, and further neuropsychiatric developments awaited. For five months, all was reasonably well with the patient, but complicating factors then began to arise. The advised removal of the stem pessary had been ignored. Dental caries requiring attention caused the husband to urge patient to see the dentist she was seeking to avoid. During the next two months, the patient reached an impasse, and facial pains returned. Husband promptly returned patient to the hospital where a second sodium amytal narcosis was decided upon. Through fault finding letters, identities had been determined, and with patient in the hospital, opportunity was afforded to review with patient and her former attending dental therapist the problem at hand. Much good progress was made. The husband, too, came in for some knowledge, and with more liberal mental catharsis on the part of the patient, further corrective adaptations resulted. The scapegoat pessary was removed before her discharge from the hospital. For eight months, the patient has been doing nicely, but another hospital session or two may be necessary for final social rehabilitation.

Superficially, we might find some fault with each of the 33 physicians who in the past three years had examined this patient and had tried to guide her. Yet, I feel that all, or most of them, are ethical, honest, and considerate. The professional motivation of each was to relieve her pain and generally to assist her. Maybe that desire was too compelling, yet no well-trained physician will long let his patient suffer pain or discomfort. Could it be that we play our diagnostic hunches too hard and too exclusively? Maybe we attend our patients with too many preconceived notions of diagnosis and of therapy. Possibly we carry too much professional bias or have a latent prejudice as to just how certain conditions should be interpreted and treated. Maybe we rate objective presentations too highly and discount subjective representations too severely. We consider them too objectively and materialistically and fail to take into adequate account the subjective interpretations and the idealistic thinking of our patients. Many times the patient through his guilt and punishment reactions may beguile and mislead the examiner and the therapist. Whatever it may be, it is clear that there is room for considerable improvement. How that improvement may be brought about is less clear.

How can each of us, each practitioner of the art and the science of medicine, gain a perspective so broad that it will be devoid of glaring omissions and faulty commissions? The answer is not readily apparent, but it is hoped that all of us may be stimulated to seek its solution.

The psychoanalyst may be ready with his suggestion. He may say "Begin at the beginning, psychoanalyze each doctor and prospective doctor and thereby remove those beams and motes that obstruct the diagnostic and therapeutic vision of all who would medically serve humanity." That is a good suggestion and if carried out, might do much to broaden and to clarify medical perspectives. However, if put into effect too literally, too extensively, or immediately, all the psychoanalysts would be busy analyzing the doctors and there would be none to psychoanalyze the patients.

The ability to include in our diagnostic vision, or perspective, a little more of the patient than just those organs and functions peculiar to our specialty, is probably a potent factor in this problem.

Let us take a quick look at another case report. This time emphasis will be directed to the perspective of the eye, ear, nose, and throat man, the gastroenterologist, and the gynecologist.

W. M., a woman of 44, was recently admitted for a pelvic operation. Married December, 1918. Appendectomy in June of 1919, complicated by secondary infection. Stormy convalescence. To home of relatives on an island in the St. Lawrence River. Telegram announced serious illness of relatives in Detroit due to food poisoning at a party—5 died. "Nervous breakdown"—to California where she soon "felt simply grand." Then back to Detroit to make more medical history and to continue shaping her life about the opinions and the attitudes of others.

Eye, Ear, Nose and Throat—In 1921, twenty years prior to her present hospital admission, she came to this specialist because of "sneezing and tickling in the throat." His careful history and examination were confined to

E., E., N., and Th., and were summed up in the diagnoses: Chronic tonsillitis, hypertrophic rhinitis, and ametropia. An assistant examiner recorded: "Nephritis following appendectomy. Nervous breakdown. Always troubled with indigestion. Avoids chocolate. Married three years. Supposed to have displacement. On examination: General abdominal tenderness, edema one per cent, retroflexion of uterus, tonsils." Nine days later tonsillectomy; then cycloplegic refraction and glasses. Six months later this specialist records: "Throat has been excellent since operation. She has not been wearing the glasses properly, as she has two pairs, and has lost both of them. Sinuses transilluminate well."

Her next contact with my medical colleagues was 16 years later when she came under the care of the gastroenterologist.

Gastro-Intestinal—In May, 1937, he records: "Abdominal distress, pain, flatulency—the pain radiates down the anterior surface of the thighs associated with nervous tension—symptoms aggravated at time of menstruation—tendency to constipation—occasionally trouble with hemorrhoids—marked nervous tension—is usually in a hurry—has cold feet and wears bed socks at night—has consulted urologist about bladder symptoms—assured nothing more than 'acid condition.' No pregnancies, but desires children. Has consulted different gynecologists, and has had gas insufflation of Fallopian tubes four times and a pelvic operation in 1925."

"Proctoscopic examination shows normal rectal mucosa, spasm of rectal ampulla and terminal sigmoid colon; perianal cryptitis, and two small external hemorrhoids. Abdominal examination not unusual."

Studies during the next five months, including the usual GI x-rays, established "chronic irritable colon."

To In Patient Service for nine days to reduce functional nervous disturbance. A uterine fibroid was discovered, but this did not come in for much blame, either by patient or physician for almost another year. In the meantime, she made regular visits to the GI Out Patient Clinic, and since leg pains were still a part of her complaint, she was reviewed by the orthopaedist and also by the neurologist, the latter in November, 1938. Since the findings of these examiners were in no sense striking, psychiatric review was planned and obtained in October of 1937. The psychiatrist called attention to a deeply ingrained psychoneurosis of anxiety hysteria pattern, and the wisdom of having patient report periodically to the psychiatrist was emphasized, but persuading the patient against the current of her psychoneurosis naturally brought many subterfuges. Periodic visits to the GI Out Patient Clinic was the best that patient would do. This continued with moderate regularity throughout 1938, 1939 and 1940. She made occasional visits to the orthopaedist, and now and then to the urologist. Some dentistry was also necessary. In December, 1940, another view by the neurologist brought the report that there were no objective indications of central nervous system impairment. Laboratory and x-ray studies at all times disclosed findings within the average.

Early in 1941, the patient's pelvic condition became such that surgical intervention was judged imperative, and so she came more fully into the care of the gynecologist.

Gynecologist—In May of 1937—"Cervix normal, fundus about three-four times normal size. Patient denies pelvic symptoms."

October, 1937—"Slight enlargement of fibroid with fixation; right ovary cystic and fixed in cul-de-sac—It might be desirable, if this meets with the general program of this patient, to remove the fibroid, and inspect the nature of the cyst."

July, 1938—"A number of complaints, particularly a feeling of heaviness in the pelvis and lower abdomen running down inner side right thigh when she menstruates. Type of shoes worn and activity in swimming and golfing may have some bearing. Fibroid and uterus nearly fill the pelvis."

June, 1940—"Fibroid has increased in size, uterus now nearly to umbilicus. It is difficult to say how much damage the pressure is causing, but we believe it has increased. I think the patient would be benefitted by hysterectomy."

December, 1940—"Fibroid probably about the same size. She is again advised that it would be well to have the tumor removed, but she has had such unpleasant experiences with other operations that she hesitates to undertake this one. At one of the previous operations in a small hospital, she was required to walk upstairs to the operating room,

and face the doctors and nurses with their gowns and masks on. She says this was without sedation, and left a bad impression."

January, 1941—Consents to hysterectomy; admitted to hospital; operations two days later. Except for mounting nervous tension and increasing emotional panic, her postoperative course was not unusual, but precisely four days after her operation, she suddenly experienced a chill and an elevation of temperature. Five hours later, she was seen in consultation by a psychiatrist. She was in an extreme panic of fear, and through an associated hyperpnea, she was hyperventilating to an alarming degree. She was thoroughly conscious, talked freely, connectedly, but in rapid fire manner. Words of assurance were met by a vehement, "You don't know how sick I am." With continuous use of oxygen, she was more comfortable in two and a half hours, but she then was judged to be mildly delirious. Obviously, the neuropsychiatric reactions were of secondary importance to some intra-abdominal condition. Four and a half days later she died, despite the utilization of all the art of medical science, including in that course of time a blood transfusion of 500 cc. of whole blood; 2900 cc. of blood plasma; 8800 cc. of glucose saline ranging from 5 to 50 per cent; and 2950 cc. of normal saline. An autopsy was not obtained, and the exact cause of death is a matter of conjecture, as is the degree to which her anxiety hysteria was a factor in bringing about her premature death. Diagnostically, "the handwriting was here on the wall" for some years but the patient could not be persuaded to accept adequate treatment from either the gynecologist or the neuropsychiatrist.

At times, the attending physician is probably not forceful enough in his statements of therapy and by repeatedly compromising his therapeutic programs he aids and abets the various morbidities of the patient, especially the faulty personality reactions. Might it not be better to ask the patient to seek another attending physician than to compromise a well-seasoned therapeutic judgment?

A quick glance at a somewhat different type of case is in order. Attention will be directed to the point of view of surgeon, internist, and neuropsychiatrist.

A. R.—Eleven years ago, a married woman of 45, a known devotee to morphine, was admitted for thyroidectomy. Five months after this operation, she was re-admitted to the hospital for treatment of her addiction by the withdrawal method. Except for the alarm and the distress of a paroxysmal auricular tachycardia, with a pulse rate of 200 and above, the patient weathered the removal of her drug in reasonable manner. She returned to her drug two years later. Six years after her first withdrawal therapy and one week after the death of her husband, she returned for her second withdrawal treatment. Since that time she has not returned to her opiates, although she periodically uses barbiturates injudiciously, and indulges in some compensatory use of alcohol. These aberrant indulgences seem to be related to periodic reactive mental depressive reactions. Six months ago an "acute abdomen" again brought her to the hospital. Acute cholecystitis, with cholelithiasis, was found, and immediate operation was imperative. The psychopathic traits, with engendered family disharmonies, have proved more unyielding than all the demands due to somatic involvements. She is still very much a psychiatric problem.

Surgeon—Through mutual knowledge of the case by surgeon and internist, the patient was admitted to the hospital for thyroidectomy because of an adenomatous thyroid with associated hyperthyroidism. Because of the known morphinism, morphine was used liberally in order to keep the patient comfortable during her surgical care. In a summary note following her surgery, it is observed: "The patient showed an unusual amount of reaction to the operation." Four months later the patient came into the full care of the internist for the treatment of her addiction. The surgeon was not again specifically interested in this patient until she was re-admitted to the hospital 10 years later because of an acute gallbladder. Surgery was imperative. Since the patient had used no opiates for more than three years, the question of surgery without opiates was left to the judgment of the internist.

Internist—As the wife of a doctor friend, the internist had known the patient for some time. This acquaintanceship had its advantages and its disadvantages over the years in terms of therapy, but unity of accord in the efforts of the surgeon and the internist

was helpfully promoted. The paroxysmal tachycardia was of severe type, but here the cardiologist was of assistance. Arterial hypertension was periodically a threat. The internist carried the patient very hopefully through her first withdrawal treatment in six weeks. Two years later, while experiencing an attack of pleurisy, her doctor husband could not stand by without administering the desired analgesic. Six years later, and in a state of contrition following the death of her husband, she chose withdrawal treatment under neuropsychiatric management rather than meet all the irksome vagaries of obtaining the drug. Through scrupulous NP supervision, she remained continuously free from the drug for three years, and then presented herself as an acute problem in surgery. The surgeon deferred to the internist, and the internist deferred to the neuropsychiartist.

Neuropsychiartist—The neuropsychiatrist first came into contact with the problem of the patient following the death of her husband. Her second withdrawal therapy was carried through in a matter of five weeks without great difficulty, and without much discomfort because of deprivation or the paroxysmal tachycardia. Eight months ago, when the acute gallbladder made surgery imperative, it would appear that the patient believed that she had all her physicians checkmated, and she frankly declared, "no opiate, no operation." The psychiatrist finally called to the fore her sturdier qualities, and she weathered her surgery without morphine or any of its kinfolk. Sodium phenyldimethylpyrazolonmethylaminomethane sulphonate and sodium phenobarbital, either singly or in combination, were successfully substituted. Her postoperative convalescence was uneventful and highly satisfactory. Now, eight months later, because of family dissensions and disharmonies, she again has thrown discretion to the winds, and is in the hospital because of the injudicious use of alcohol and the barbiturates.

The cogency of these case references and their implications is apparent. The citation of more cases would be superfluous.

Points of view, perspectives, vary with changes in the focus of the observing eye; and, further, changes are often added by the patient and his setting, not unlike the eye at the kaleidoscope.

Eighteen years of living and working in a general hospital setting with 150 colleagues of almost every specialty have made me very tolerant of the perspectives, interpretations, and judgments of medical men everywhere. And in full respect of this tolerance I must emphasize that in this day of specialization we must know not only our specialty but also must know human dynamics to the point where we do not fail to see the whole because of one of its parts. Probably we are guarding too rigidly against the old saying: "Jack of all trades and master of none." A more middle course may be the answer; for, indeed, the increased cost of medical care to the public and the extensive medical shopping done by patients are due not alone to rising costs of medical service and demands for unusual therapeutic procedures but to our own failures to gain an adequate perspective and really to see the patient as he is—a person.

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Curare Modification of Therapeutic Convulsions*

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The complications occurring during shock therapy of mental disease can be classified roughly into those resulting from the presumably desirable actions of the therapeutic agents, and those resulting from the undesirable side actions. In the first category may be placed the prolonged hypoglycaemic coma, delayed or recurrent convulsions following metrazol and electric therapy, and the general impairment of intelligence due to long continued use of any of these agents. These reactions can usually be avoided by close attention to technique. Not so easily prevented are the complications in the other group, visceral and skeletal damage through undesirable side actions. Among these are the lighting up of tubercular foci by hypoglycaemia, the production of lung abscesses or pneumonia from tube feeding or aspiration, multiple embolism from intravenous injection (particularly metrazol), cerebral hemorrhages, cardiac damage, and fractures.

Prevention of visceral complications will not be discussed here, except those resulting from the violent muscular contractions in convulsive therapy.

It became apparent very early[1,2] in the use of metrazol that fractures of the vertebrae and, occasionally, other bones constituted a very real objection to the therapy and numerous methods were devised to prevent or avoid their occurrence. Some authors have reported excellent results from restraint and postural measures, the common purpose of which is to hyperextend the thoracic spine and prevent "jackknifing." These methods are not entirely effective in our experience, and are not very convenient when the convulsions are given during the hypoglycaemic state. Avoidance of spinal injury by preliminary roentgenological study, and weeding out of those who have extensive lipping, bridging, decalcification of the vertebral bodies, or shrinkage of the intervertebral discs is quite effective. However, by so doing, one is prevented from treating a considerable number of middle-aged and elderly subjects, in whom one finds the greatest incidence of affective disorders, demonstrably the most amenable of all mental disease to convulsive therapy, but in whom hypertrophic osteoarthritis is very common.

It is beginning to be recognized also, that shock therapy is useful in many "organic" psychoses. For example, we have stopped wild delirioid or catatonic-like excitements in paretics by a few convulsive treatments, and were thereby able to put them into condition to undergo therapeutic malaria. These patients, too, are commonly in the age group just mentioned and, in addition, frequently suffer from visceral pathology due to specific disease. Violent convulsions are quite formidable in patients with luetic cardiovascular lesions.

This was the problem which led Bennet[3] to advocate and use spinal anaesthesia to abolish the muscular component of the convulsion during metrazol therapy. This was a rather radical procedure, and did not gain widespread popularity. In 1940, he[4] and Rosen, Cameron and Ziegler[5] published papers on the use of paralyzing drugs for the purpose, Bennet using curare, and the Albany group the allied erythrina alkaloids. The uncertainty of the source and hence the varying potency of curare, which led the latter to choose erythroidin, had been solved to a great degree by Bennet. He had devised a method of standardization based on animal assay while using curare experimentally in spastic paralysis.

Following Bennet's suggestion, we obtained some curare and began to use it in conjunction with electro-shock convulsions. Our particular wish was to resume convulsive therapy in some patients who had shown progress, but who had suffered compression fractures of the spine, necessitating suspension of treatment. The results with electric therapy alone were so gratifying that we were encouraged to use it in our combination insulin-electric technique. We have no knowledge of anyone else's doing the same.

The pharmacological action of curare may

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be reviewed briefly here. It acts on the myoneural junction, probably by neutralizing acetylcholine, thus preventing the response of striated muscle to the nerve impulse. For some reason, the intercostal muscles and diaphragm are relatively resistive to the drug, and respiratory paralysis occurs only after other voluntary muscles have become affected. For this reason, a dose can be calculated, if the drug is pure, which "softens" the convulsive seizure without jeopardizing respiration. The action occurs promptly, with the peak effect from an intravenous injection occurring in from two to three minutes. Excretion is also rapid, the effects of the drug disappearing completely in fifteen to twenty minutes. Thus, if an overdose is given, the patient can easily be carried past the danger period by artificial respiration. It should be added that the "commercial" curare, obtained from traders in the Amazon territory, often contains spurious material which has other toxic actions and hence must be thoroughly tested by competent chemists before being used for clinical purposes. The Albany group selected the erythrina derivative for this reason. They felt that it could be obtained with more certainty of purity than curare. We have found the curare supplied us to be quite consistent in effect and free from undesirable side action.*

The curare at present available is an aqueous solution prepared for intravenous injection. It is supplied in 5 cc. rubber-capped vials, each cc. containing 20 mgm. of the active principle as determined by animal-assay methods. The first dose to be given is calculated on the basis of 10 mgm. of the drug per twenty pounds of the patient's body weight, less 1 cc. of the total. This subtraction from the calculated quantity is to allow for possible individual hypersensitivity to the drug. If this quantity proves insufficient and no undesirable reaction occurs, the second injection should be the full calculated dose. If this also proves inadequate, subsequent doses may be increased, the drug being estimated at 15 mgm. per twenty pounds of body weight. As previously mentioned, injection is by the intravenous route, the recommended rate of injection to be so controlled that the injection consumes from sixty to ninety seconds. An interval of two to three minutes to allow for curarization to develop is suggested. Full curare-effect is considered present when there is marked ptosis of the lids and inability to lift the head from the bed. Inconstantly present is weakness of the lower extremities and of hand grips. In our experience, the recommended rate of injection is too slow. It results either in slight or no curarization, or necessitates an increase beyond the recommended amount. The speed with which the drug is injected exerts a marked influence on the depth of the effect and the rate of injection should be adjusted to the individual patient on the basis of his reaction to the first treatment. We find an injection rate of thirty to sixty seconds most generally effective. As the injection begins, an assistant calls time at ten-second intervals.

The first effect noted following the injection is flushing of the face and neck, accompanied by soft cough. Patients frequently exhibit mild agitation and complain of a feeling of suffocation, visual disturbance (apparently occasioned by a weakening of the action of the ocular muscles, plus ptosis of the lids), and a generalized feeling of paresis. This agitation may be largely obviated by explaining beforehand to the patient that such an effect will accompany the injection, that it is the desired reaction, is harmless, and transitory. It has been our practice to have the patient perform certain simple maneuvers demonstrating the effect of curare before the administration of the drug and warn him that he will be asked to repeat this in a moment or two. In this way, we establish the integrity of the muscle groups involved, confirm the rapport with the patient, and by centering his thoughts on the actions desired, distract his attention from the disagreeable sensations induced. Also, before the injection, we routinely make the preliminary tests with the electro-shock apparatus and set the controls accordingly. When curarization is at its peak, we quickly recheck the resistance reading and administer the shock.

When convulsive therapy is given during insulin hypoglycaemia, it is necessary that the patient be sufficiently alert to cooperate for the tests. If the patient is in coma or deep passive stupor, intravenous glucose must first be administered and the return of active reflexes noted before proceeding. It has been

*"Intocostrin," provided for experimental use by E. R. Squibb & Sons.

our experience that convulsive treatment given with the patient either comatose or deeply stuporous, almost invariably results in undesirable side effects. These include a much prolonged reaction time, sustained confusion, and more or less permanent memory loss. An additional intravenous injection of glucose is given just as the seizure is subsiding whether convulsive therapy is given simply in combination with insulin or with the added administration of curare. This procedure usually eliminates the necessity for nasal gavage with its attendant risks, as the patient usually reacts sufficiently to drink.

Abnormal or undesirable sequelae of curare are: prolonged apnea, necessitating artificial respiration and perhaps the administration of 1 cc. of 1:1000 prostigmin as a physiologic antidote; or, rarely, convulsive reactions to curare itself which probably result from traces of some extraneous substance. Irreversible electrocardiographic changes have been reported when electro-shock has been given with the drug, such changes being attributed to the prolonged apnea which is sometimes seen. Patients receiving the drug should be carefully supervised for at least thirty minutes afterwards, by which time the curare will have been completely excreted.

Up to the close of 1941, we used curare to modify convulsions in twenty cases. These patients were of both sexes, and a variety of psychiatric diagnoses were represented. The ages ranged from twenty to seventy-four, with a majority over fifty. The physical complications which made unmodified convulsions dangerous were principally bone lesions of the spine—either fracture from previous convulsive therapy or hypertrophic or atrophic changes. Several had cardiovascular lesions, one a hernia, one phlebitis.

These twenty patients were given from one to twenty-one treatments each. One hundred ninety-six treatments were given in all. Four patients are continuing with modification by means of intravenous magnesium sulphate, of which more will be said.

Of the twenty patients it may be said conservatively that in eighteen the purpose of curarization was achieved. In these, there were ten in whom no abnormal reactions at all occurred. In the other eight, mild respiratory or cardiac embarrassment occurred from one to four times. Twice artificial respiration was required, but no emergency medication was used. In the patient with phlebitis, a mild flare-up occurred after the seventh treatment, probably not as a reaction to the shock therapy since there had been none before, and none occurred after the eighth treatment was given.

In the two unsuccessful cases, the cardiac embarrassment was so marked, after one and two treatments respectively, that it was deemed unwise to continue. It is becoming apparent that curarization is to be used most cautiously in severe cardiac disease, since the period of apnea resulting from the convulsion is sometimes prolonged, and presumably may aggravate myocardial changes from sclerotic vessels.

Respiratory embarrassment we classify as moderate or severe. Moderate embarrassment is considered present when the return of respiration is delayed as long as one minute after subsidence of the tonic-clonic phase of the convulsion and being initiated, it is shallow, irregular, gasping in character, and cyanosis persists even though blood pressure and pulse rate, rhythm, and volume are considered satisfactory. Severe embarrassment is evidenced by complete absence of respiratory movements for two to three minutes after subsidence of the convulsion, with deepening of the cyanosis occasioned by the seizure itself, and the frequent appearance of pupillary dilatation and generalized muscular flaccidity. When this occurs, artificial respiration, preceded by clearance of the air passages of mucus and saliva, is instituted. It may consist only of a half dozen compressions of the lower thoracic cage, or may have to be continued for twelve to fifteen minutes before satisfactory spontaneous movements result.

Cardiac disturbance also is catalogued as moderate and severe. The lesser degree of severity is evidenced by alterations of pulse volume, rate, and rhythm, with deepening of the existent cyanosis, even though respiration may be satisfactory. Blood pressure in this case may not be affected or the systolic pressure may actually have risen from its preconvulsive level by thirty to fifty millimeters without change in the diastolic. Severe cardiac disturbance may be evidenced in one of two ways. In the case of an acute left-sided insufficiency, there will be imperceptible radial pulses, heart sounds of poor quality,

TABLE I. CASE RECORDS OF CURARE MODIFICATION OF SHOCK THERAPY

Pt.	Sex	Age	Complicating Disease	Number Treatments	Type Shock	Abnormal Reaction	Results and Comments
1	F.	55	Hypertrophic osteoarthritis with bridging.	12	E.	2 mild respiratory embarrassments.	No injuries, no emergency medication required. Continues on mag. sulph.
2	F.	49	Hypertensive disease (240/140); hypertrophic osteoarthritic spine with shrinkage of discs.	1	I. & E.	None	No injuries. Continuing on mag. sulph.
3	F.	65	Cardiac disease, rheumatic	18	I. & E.	None	No injuries.
4	F.	41	Compression fracture, fifth dorsal (post metrazol)	21	I. & E.	Respiratory embarrassment four times	Artificial respiration once. 9 comb. I. & E., 12 E.
5	F.	54	Hypertrophic osteoarthritis with shrinkage of discs; chronic thrombophlebitis, left saphenous	8	I. & E.	None	Flare-up of Phlebitis after 7th treatment; no reaction to 8th; continuing on mag. sulph.
6	F.	36	Hypertrophic osteoarthritis; sub-acromial bursitis	10	E.	None	No injuries.
7	F.	49	Fracture of 3rd and 4th dorsal, post-convulsive	10	I. & E.	None	No injuries.
8	F.	60	Cardiac hypertrophy, mitral valvular disease	8	I. & E.	None	No injuries.
9	F.	53	Hypertrophic osteoarthritis; cardiac hypertrophy, mitral valvular disease; B. P. 170/75	7	I. & E.	Cyanosis three times; moderate respiratory embarrassment twice.	No injuries; no emergency medication
10	M.	59	Aortic dilatation	1	I. & E.	Pronounced respiratory embarrassment with cardiac disturbance.	Required artificial respiration and adrenalin.
11	M.	58	Hypertrophic osteoarthritis; umbilical hernia.	10	E.	None	No injuries.
12	M.	24	Fracture, 7th dorsal (post metrazol); lipping of 7th and 8th	11	I. & E.	One mild respiratory embarrassment	Continuing on mag. sulph.
13	F.	74	Generalized arteriosclerosis; hypertrophic osteoarthritis	14	E.	One mild respiratory embarrassment.	No injuries; no emergency medication.
14	M.	57	Marked hypertrophic osteoarthritis with bridging	9	I. & E.	One mild respiratory embarrassment.	No injuries; no emergency medication.
15	F.	58	Mild hypertension, 160/75; decalcification of veterbral bodies and shrinkage of discs	2	E.	One mild respiratory embarrassment; 1 prolonged apnea; cyanosis.	Required adrenalin and artificial respiration once.
16	M.	34	Osteomalacia of spine; fracture of 7th dorsal (post metrazol)	7	E.	Two marked bradycardia; 1 marked respiratory embarrassment; 4 marked falls in B. P.; 4 very cyanotic.	Required artificial respiration once.
17	M.	20	Compression fracture of 5th and 6th dorsal (post metrazol)	13	I. & E.	None	No injuries.
18	M.	25	Compression fracture of 3rd, 4th, and 5th dorsal (post metrazol)	17	I. & E.	Two cyanosis; one respiratory embarrassment; one cardiac disturbance.	No injuries; no emergency medication.
19	F.	44	Hypertrophic osteoarthritis with shrinkage of discs and bridging	8	E.	None	No injuries.
20	F.	63	Enlarged heart; diastolic mitral murmur	9	E.	None	No injuries.

a pronounced bradycardia with marked arrhythmia, a generalized vascular collapse with a cadaveric, olive-green pallor succeeding the pre-existent cyanosis, and a fall of blood pressure to very low levels, the diastolic disappearing and the systolic ranging as low as thirty to forty. If a right-sided acute insufficiency prevails, a tremendous venous engorgement, especially to be noted in the neck, is seen, the jugulars at times appearing to be in imminent danger of rupture. The previous cyanosis deepens to the lividity usually seen in drowned or hanged individuals, and the pulse rate and rhythm may be relatively unaffected though pulse volume may increase in accord with a rise in the systolic blood pressure, which is frequently seen.

We have had one case of an acute left-sided insufficiency occuring in Case 10, a fifty-nine-year-old white male, an involutional melancholia, who exhibited the following indications for curarization: Heart and blood pressure reported clinically negative; x-ray revealed marked bulging of the cardiac aorta, no arthritic changes. He received one electro-shock with 3.5 cc. of curare, experienced an atypical grand mal, and presented the syndrome previously detailed—profound pallor, clammy skin, vascular collapse with imperceptible radial pulse, marked fall of blood pressure, and absence of any respiratory excursions. Artificial respiration was instituted and continued for ten minutes and 1 cc. of 1:1000 adrenalin given. The patient's head was lowered and his hips elevated, and external heat applied. Full recovery followed, and, after a rest period of several weeks, treatment was resumed. He is now successfully undergoing insulin, plus electro-shock with curare. However, he is included in this study as a curare failure.

There has also been one case of an acute right-sided insufficiency to occur. This was Case 15, a fifty-eight-year-old white female, a chronic manic depressive, manic, whose physical condition requiring the use of curare was: Blood pressure 160/75 with accentuation of the mitral first sound; decalcification of vertebrae with shrinkage of intervertebral discs. The first electro-shock was given after 1 cc. of curare and, by design, resulted in a petit mal seizure. The second shock, given in conjunction with 3.6 cc. of curare, resulted in a major convulsion. Following the seizures, the picture as previously described resulted—profound venous engorgement, cyanosis, deepening to lividity, pulse volume reduced, rate and rhythm regular, reduction of blood pressure, and respiration satisfactory. One cc. of 1:1000 adrenalin was given, the head was raised, external heat applied, and various pious supplications sadly neglected in the past were hastily invoked. Recovery was gradual, but consistent, and at the end of two hours the patient was apparently at her usual physical level. No electrocardiogram was done either before or after, but there was no subsequent clinical evidence of cardiac dysfunction. The patient achieved an apparent complete remission from her psychosis, and returned home. This case is also listed as a curare failure.

We have noted blood pressure rises in patients receiving electro-shock with curare equivalent to the rise seen in patients given electro-shock without curare. This rise occurs irrespective of the production of grand mal, being seen as consistently in patients exhibiting the petit mal type of response. A rise in blood pressure appears to follow electro-shock with or without curare. Thus, it would appear to be a vain expectation that a hypertensive or chronic cardiac could be shielded to any great extent from the physical effects of the convulsive seizure by curarization. We do not plan to use this method in cardiac cases in the future, unless there are skeletal changes sufficient to justify it, independent of the circulatory condition.

Conclusions

The use of an aqueous solution of curare, given intravenously, is a reasonably safe and effective method of modifying electrically induced convulsions, either alone or in combination with hypoglycaemia, to prevent skeletal and some visceral injuries. Severe cardiac disease is a contraindication, but a moderate degree of hypertension, or heart disease with a fair degree of compensation is acceptable.

Further studies are in progress.

Because of the expense and the possible difficulty in securing adequate quantities of curare, we are now trying an aqueous 25 per cent solution of magnesium sulphate, reported last year by Yaskin.[6] Like curare, it is given intravenously, the amount to be injected calculated on body weight, and a curare-

like action results. Our series of cases is as yet too small to warrant any conclusions, but we plan to report our technique, observations, and conclusions in the near future.

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Group Therapy for Psychoneuroses*

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Group therapy for psychoneuroses was first undertaken by Joseph H. Pratt in Boston in 1930 and has been practiced by him since that time with increasing success. In an article published in 1934[1] he described his method. A close collaborator, W. Rhoades, who himself conducts one of the classes, discussed the system in a paper published in 1935[2] and in his books.[3] H. J. Harris, a pupil of Dr. Pratt, wrote an account of the very successful results achieved.[4] Many physicians, scientists and psychologically interested laymen have studied this method of treatment in the so-called Thought Control Classes conducted by Pratt and his associates at the Boston Dispensary. Similar classes have recently been established in other cities. Samuel B. Hadden published an account of his own good results with the class method in the Presbyterian Hospital in Philadelphia, Pa.[5]

Despite all of the foregoing writings and reports, it is believed that this paper will have value for three reasons. Firstly, because the method has so many advantages for patient as well as for physician that it should be employed more extensively. Secondly, the articles referred to do not give adequate consideration to some factors which lead to the favorable results; factors by which this method has advantages over other more individual methods of psychotherapeutic treatment. And thirdly, the present unprecedented conditions and the approaching demands upon the nervous resistance of both our civil population and our armed forces require a therapeutic method by which a single physician can influence at one time a large number of people who are suffering from neurotic reactions.

We cannot expect that a population which has never had experience on its own shores with the dangers and atrocities of war will be emotionally prepared to endure those enormities without nervous developments. If the World War of twenty-five years ago led to extensive neurotic manifestations among the soldiers of all nations, how much more can such reactions be expected in a war which involves the civilian population as well—a war in which are utilized still more dreadful weapons of destruction and still more potent methods of creating dread and terror!

Effort is being made to prevent psychopathic individuals from being drafted. The neurotic reaction, however, is not limited to the neurotically predisposed individual. When experiences come which surpass the limit of human endurance, even the most courageous and fearless soldier may be liable to respond with neurotic symptoms. The fuses which all of us have in our vegetative nervous system for the protection of that system against unusually strong emotional outbursts may sometimes burn out in the face of the apocalyptic atrocities of war. If that is true for the soldier, how much more is it likely to be true for the civil population!

The method used by Pratt is described in the literature referred to above. The purpose

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here is to call attention to the advantages of this method over that of individual treatment. Of course it is not proposed that this method replace every other method. It never can and never should replace individual treatment which is needed by neurotic patients of certain types. After two and a half years, however, of thorough study of the method and the patients at the Boston Dispensary there is convincing proof that at least 90 per cent of the neurotic patients who fill the offices of physicians of all specialties and who throng the outpatient departments of our hospitals (and the number will probably increase as the war progresses) can be treated successfully by the Pratt method. For the remaining 10 per cent or less, individual treatment may be advisable. Our own method, however, does not rule out all individual attention. Each patient is guaranteed individual approach on at least two occasions. At the outset, even before he enters the class, each patient is interviewed at length by the class leader or by one of his collaborators. This is done not only for the purpose of introducing the newcomer to the main principles of the method, but also to give the class leader the possibility of dealing, as he talks to the gathered group, with some of the specific troubles that brought the newcomer to the class. Many of the patients have related that this personal contact between leader and patient (by speaking about the newcomer's specific troubles without any direct personal reference) created in their very first class session the conviction that they would at last find here the help so badly needed and up to that time unobtainable. A second personal approach is found in individual interviews given to those patients who do not improve to the same degree as others. In my experience such individual help has to be given only once or twice, though there are cases of special difficulty that have been followed up in this way for considerable periods by Pratt's collaborators. In any event such individual treatment should not be given to hysteric patients inasmuch as any special favor that is offered to patients of that order hampers their improvement by the class method. Their subordination to the class leader is one of the main curative principles.

Subordination can be achieved much more easily by group therapy than by individual treatment. Just as membership in a group helps hysterics by suppressing their unjustified pretensions, so it helps other neurotics from a quite different angle. Individuals of the introvert, anxiety neurotic, seclusive schizothyme types get for the first time the fulfillment of their deepest desire for identification with other people by becoming members of a group. At the same time such group membership diminishes the embarrassment so much feared by the neurotic individual when he sits face to face with his doctor alone in his office. He can hide his self-consciousness and his fears behind the group, and as he advances from one session to another can remove gradually the links in the armor that separated him from his environment.

At the same time he is prevented from indulging in those seclusive tendencies by being approached personally at each class attendance. It is an evidence of Pratt's deep psychological understanding of the neurotic that each patient becomes a member of the class and remains a member whether he attends regularly or not. His name is listed on a card index and is called each time he is present, and he advances from one seat to another as his number of credits increases with each attendance. This makes him feel the leader's personal interest in him as an individual, stimulates his ambition, and recovers and deepens his lost self-confidence.

The needed feeling of personal contact does not come from the action of the leader alone. The neurotic himself is given an opportunity to reach the leader and inform him about his progress or lack of it at each session by means of a brief written report which he is asked to write. These reports are read anonymously before the class, and are divided into three groups—"good," "stationary," "poor"—according to the degree of advance that is reported. Since the greater number of reports fall regularly into the group titled "good," the reading has an encouraging influence upon all, particularly newcomers, and serves also to increase confidence in the class leader and his method. This enlarged confidence is a factor which individual treatment cannot bring even though the patient may know about the successful cures achieved by the physician to whose office he is going. Incidentally, these weekly reports serve also to inform the class with regard to the average success of the treatment.

Like a child, who more easily overcomes his fear of going to the doctor if he has hold of his mother's hand, the newcomer makes more ready contact with the leader if he sits in the midst of fellow sufferers, all of whom are filled with confidence in that leader and his method, and who testify to this confidence when, at the class meeting, they tell of their success in freeing themselves from the distressing symptoms they had formerly experienced. Usually the leader calls upon members for this purpose. Sometimes they volunteer. They speak of their former state of illness and then tell how they have been cured, or at least been led to improvement, by the class therapy. These testimonials are of decided value, helping newcomers to make a start and encouraging backward members to progress.

That, however, is not the only favorable effect of these testimonials. Another result, at least as important, is the effect upon the reporting members themselves. They become anchored, so to speak, by their public testimony. Having once reported improvement, they become anxious not to compromise themselves later on by a relapse or failure, thus disappointing the leader as well as the class. Each avowal brings a feeling of obligation. We see the same thing in public life, in politics, in religion. Class therapy brings in an element not attainable by any individual therapy, inasmuch as the latter necessarily excludes publicity. The first public utterance before the entire class brings about for some members a sort of emotional shock; but that also is a favorable curative factor. In several instances the improvement went ahead more rapidly after that first report. One may compare the beneficial effect of such a shock with the shock produced by our drugs (metrazol or insulin) or by electricity in its recent use for treatment of psychoses and neuroses. This holds true especially of the schizothyme introvert neurotics. These seclusive personalities, who suffered from being unable to express themselves and felt themselves separated from their fellow beings, experienced a redemption by their first talk to the class.

Older members help the newcomer not only by their reports but also encourage the beginner by individual talks in which they acquaint him with the method of self-aid which has proved so effective with themselves. This duty of being a helper of the leader is a curative factor of immense value inasmuch as many neurotic symptoms arise out of the background of an everyday life without real duties, or with unsatisfactory duties. The call to help brings back self-esteem, or creates for the first time that self-esteem, the lack of which is a source of many neurotic symptoms. Ambition is stimulated by the possibility of advancing to be a helper, and of becoming a giving member instead of one who is merely receiving. These are motives which cannot be utilized by any individual treatment, regardless of how profound it may be.

It is evident that thus, *nolens volens*, closer relations must develop between members and leader. Without a certain degree of "transfer" success in psychotherapy is not attainable. In group therapy, however, a fixed (and unsuitable) transfer can never occur as it may in individual therapy. The grouping of leader with many members prevents such an occurrence.

The report procedure is as important as the leader's lecture. The influence of the reports is the result of the group form created by the leader. If he cannot bring the members into a feeling of harmony, his other procedures are ineffective. It may sound paradoxical, but it is the fact that it is not so important *what* the leader says as *how* he says it. His subject, of course, must be chosen from the realm of psycho-physical relationship. Whether he speaks of the influence of suggestion, of the effect of emotions on bodily functions, of the bad habit of worry, of overcoming fear, of self-control, of keeping mentally fit, of the importance of living in the present, of the stoical attitude toward pain, of the blessings of work, of the advantages of social contacts, or whatever else he may select for the talk, the subject chosen must have some practical bearing on the solution of the patient's personal problems. Primarily the lecture should be lively and close to life. It should not be academic, and therefore, if possible, not prepared in detail. The use of examples not only makes it more animated but also enables the leader to get close to the need of the individual member. Patients have often told me that Dr. Pratt had referred to their personal case, even when he had not done so intentionally. That is quite understandable inasmuch as references to psychological viewpoints, as well as to bodily disturbances, are

always adapted to the problems of some of the members present.

One part of the leader's talk concerns physical relaxation which is practiced at each class session. While that part is not discussed here in detail, its importance as an exercise for the release of emotional tension can be accepted as a fact. The experience of psychotherapists with hypnosis—that sometimes it is easier to bring a group of patients into a hypnotic condition than an individual patient—holds true also of relaxation.

It is interesting to note the manner in which the group method is effective with varying types of patients. Extrovert patients usually could not give any details as to how the method helped them. They were cured rather *en bloc*; which is to say, by suggestive factors, by trust. Introvert patients, however, were able to explain what the curative factor was. They were cured rather by conviction, by psychological processes which appealed to the intellect.

The group method does not require a specialized psychiatric training. Any versatile physician who has psychopathological interest and who is a judge of men can employ it.

Reverting to the statement made at the beginning of the article, this method may be employed not only in the treatment of the common everyday neuroses with or without physical disturbances, but may be employed also in the treatment of war neuroses; with soldiers if neuroses should occur in a great number of cases, and with the civil population in case of emergency. This method not only saves time, but has also many other advantages over individual treatment, especially in war neuroses in which the causative factors lie on the surface and are limited to a small number of disturbing influences.

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Advances in Care of Mental Patients in New York Institutions*

For the first time in 50 years since New York State assumed care of the insane, the rate of increase in the number of patients in residence in civil State hospitals has not only been halted, but the number is decreasing, Governor Lehman was informed today by the Temporary Commission on State Hospital Problems, which he named on November 9, 1940, to survey the continually growing population of these 19 institutions.

Members of the Commission, headed by Homer Folks, its Chairman, called on the Governor in the Executive Chamber at Albany at noon today to submit a progress report on its survey and the successful steps which it had recommended, initiated and helped the State Department of Mental Hygiene and the State hospitals to put into effect thus far, to check the yearly increase in the number of insane requiring institutional care. The Commission not only reported that it is possible to reduce the number, but that it actually has been accomplished.

A highlight of the report was that during the four months ending November 1 this year, the number of patients in residence had for the first time decreased. The Commission believes that if the psychiatric and social service personnel of the hospitals is not too seriously depleted by war, the number may be kept down, and even further decreased.

The report stressed as the chief factors in the notable decrease to date, increased and earlier use of parole, the boarding out of larger numbers of carefully selected patients in family homes, and progress in testing and using new methods of shock treatment. The survey was made with the fullest cooperation of the State Department of Mental Hygiene and the hospitals.

*Report of Commission on State Hospital Problems, November 30, 1942.

Population Grew Nearly 2,400 a Year

In appointing the Commission, the Governor stated that the annual increase had averaged 2,392 a year for the last 10 years. To provide beds for the steadily increasing patient population, the State has spent large sums both from current appropriations and bond issues, but without ever being able to eliminate overcrowding which, at times, has been as high as 35% in excess of the rated capacity of the hospitals, and is at present about 15%.

Questions Studied

The Commission's report stated that it was asked to consider the following questions:

1. Have the newer modes of treatment of mental illness, known as "shock treatment," resulted in substantial benefit to a considerable proportion of the patients so treated?
2. If so, should this type of treatment be used in a larger degree and in all the State mental hospitals?
3. Is it possible to increase the number of patients placed on parole, and to place them on parole sooner?
4. Is it possible and desirable to place a considerable number of patients in family care, with payment for their board?

This Commission, the report stated, has made a number of studies of these questions. It has aided in forming plans and in the execution of such plans, for ascertaining the fitness of patients who have been under hospital care for a considerable time, for placement on parole or in family care. It has made numerous studies, and has in hand a still more complete study, of the results of insulin and other shock treatments in the State hospitals.

Main Conclusions

The Commission listed its major conclusions as follows:

"As a result of these inquiries and activities, the Commission is able to report to you that the answer to each of the four questions stated above is 'Yes.'

"1. There is every reason to believe that insulin and other 'shock treatments' have been of substantial benefit to the patients and that in many cases their stay in the hospital has been greatly reduced and their restoration to useful community life expedited.

"2. When the Commission had reached this conclusion, in February, 1942, the Commissioner of Mental Hygiene, at its suggestion, arranged a course of observation and participation in insulin shock treatment at the Brooklyn State Hospital, to which course each State Hospital, not already having a staff member competent to administer such treatment, could send a staff member for such training.

"3. It is readily possible to increase the number of patients placed on parole and to place them on parole earlier, by means of a psychiatric survey, patient by patient, of the entire patient population of the various hospitals.

"4. It is both desirable and entirely practicable to place a considerable number of patients, who are not yet ready for parole, in carefully selected family homes with payment for their board. In many cases this renewed contact with community life results, after a brief period of time in the patient finding employment, showing a fitness for family and social life, and being placed on parole and subsequently discharged.

"The Commission is able to report to you further, not only that, by these various means, it is *possible* to reduce the rate of growth of the State hospitals, but also that in fact the rate of their growth *has been reduced* very markedly during the two years, July 1, 1940, to July 1, 1942, and that in the first four months of the current year (July 1, 1942 to November 1, 1942) the previous longstanding increase has given place to *a decrease* of 78.

"The following table shows the number of patients in residence in the New York State hospitals at the beginning of each fiscal year (July 1st) from 1930 to 1942 and on November 1, 1942, and shows the net increase each year and the decrease in the last four months:

	No. of Patients in Residence	*Annual Increase*
July 1, 1930	47,294	——
July 1, 1931	49,431	2,137
July 1, 1932	52,416	2,985
July 1, 1933	55,328	2,912
July 1, 1934	57,374	2,046
July 1, 1935	59,883	2,509
July 1, 1936	62,550	2,667
July 1, 1937	64,785	2,235
July 1, 1938	66,625	1,840
July 1, 1939	69,246	2,621
July 1, 1940	71,210	1,964
July 1, 1941	72,433	1,223
July 1, 1942	73,159	726
Nov. 1, 1942	73,081	78
		Decrease 4 mos.

"Nothing Like This in 50 Years"

"There has been nothing like this in the history of the New York State Hospitals during the past fifty years," the report stated.

Contrasting with the *decrease* of 78 in the resident population of the institutions during July, August, September and October of this year, are these comparative figures of *increases* in the corresponding four months during the past 10 years:

1932	1,046
1933	905
1934	950
1935	974
1936	759
1937	541
1938	862
1939	1,008

1940	721
1941	369
1942	−78

Findings and Recommendations

As a result of its studies and activities, the Commission reached these general conclusions:

"1. A considerably larger number of patients can safely and advantageously and in the best interests of all concerned, be placed on parole *if* psychiatric service is available for the necessary individual examinations and if social service, adequate in numbers and suitable in qualifications, is also available. A deficiency in either of these services means that larger numbers of patients will be returned to the hospitals from parole or family care than would otherwise be the case, and that larger risks are assumed in the release of patients to parole or family care than need be.

"2. The system of family care, with payment for board, which was adopted as a departmental policy in 1936, which reached a volume of 542 patients on July 1, 1938, which was substantially discontinued in 1940 through some technical complications as to available funds, and which was re-established in early 1941, has now (November 1, 1942) reached the number of 1,248. This was done relatively easily, which suggests that this number can be very considerably increased, to some 3,000, or possibly over a few years, to 5,000 patients.

"3. Adequate provision for vocational adjustment and guidance in securing employment would both increase the number of patients who remain on parole or family care and enable them to re-establish themselves on higher levels of income.

"4. The system of family care meets the needs of several types of patients, including: (a) patients needing to receive training and partial employment in some available industry without which they would be less able to secure regular and permanent employment; (b) patients, who have to a large degree recovered from their mental illness, and who need to gradually participate again in community life and activities, to secure casual and temporary jobs, and gradually to re-establish both an expectation and an ability to again lead a normal, responsible, self-supporting life; and (c) enabling a certain number of aging patients, who have no homes or families, but wish to live under more interesting and normal conditions in families, to participate in the activities and interests of such families, to do a certain number of useful services, and to be free from some of the restrictions and limitations that are inevitable in a large hospital.

"5. Insulin and other forms of shock treatment constitute a very substantial advance in the treatment of groups of patients for whom, theretofore, relatively little was being, or could be, done; it may well be the case that new and different forms of shock treatment may be developed, perhaps superior to any that have yet been devised; and extreme care should be taken at frequent intervals to analyze the results of the various types of shock treatment as related to various classes of patients, with a view to determining its potentialities and of taking the fullest advantage of them."

State Care of Insane Commended

The Commission reported that at its meeting on November 10 it adopted the following resolution expressing its high regard for the work of the State hospital system:

"The people of the State of New York over a long period of years have gained a high degree of confidence in the care given to mental patients in the State Hospitals. They have proved that confidence by voting large sums of money for the construction and maintenance of these hospitals, both by direct referendum, and also through their representatives in the Legislature. Everything which this Commission has learned about the State Hospitals, both directly and incidentally, confirms the soundness of the high regard in which the State Hospitals are held by the people."

Recommendations by Commission

The Commission has authorized further study of family care and parole problems and procedures and submitted the following recommendations:

"Social workers hereafter employed by the State Hospital System should be graduates of approved schools of social work.

"For considerations of efficiency and of avoiding unnecessary risks, the average number of patients on parole or in family care per social worker should not exceed 60, or a major fraction of that number.

"For social service in and at the State Hospitals, including assistance in securing the social history of newly-admitted patients and similar duties, there should be at each hospital not less than one social worker per 1,500 resident patients, or major fraction thereof.

"For each six social workers, or major fraction of that number, there should be one supervisor.

"The general plan of a central office for conducting the parole supervision of patients on parole or in family care in the city of New York should be adopted. It is believed that such a plan would not only result in substantial economies in the time of social workers, but would, by providing a consistent direction of the entire group, and by affording much greater opportunities for enlisting the aid of welfare agencies in the city, result in substantially higher standards of operation and secure much greater benefits to patients on parole in New York.

"That careful study be given to the development of somewhat similar parole centers in various areas of up-State New York, or in the State as a whole, on a district basis.

"That all appropriations for social service in the Mental Hygiene Department in the next State budget be segregated from the various Hospitals and Schools and placed in a lump sum for Social Service, appropriated to the Department of Mental Hygiene and subject to allocation, from time to time, by that Department.

Parole Possibilities

The Commission sought to learn whether more patients could be paroled, and at earlier periods. With additional social workers made available to co-operate with the medical staff an analysis was made of the patients in the Central Islip State Hospital in Suffolk County,

of more than 7,000 patients, and the Marcy State Hospital near Utica, with 2,500 patients. The Central Islip survey was begun October 6, 1941, and the actual psychiatric survey was completed on June 18, 1942. 7,384 patients were surveyed, of whom there were found to be:

Suitable for Parole	360
Suitable for Family Care	139
Total	439

or 6.7% of those surveyed.

At Marcy State Hospital the survey was begun November 7, 1941, and the psychiatric survey was completed on April 18, 1942. 2,568 patients were surveyed, of whom there were found to be:

Suitable for Parole	97
Suitable for Family Care	168
Total	265

or 10% of those surveyed.

"It is interesting to note," the report stated, "that of those recommended for parole, 28 had been in the hospitals between 10 and 20 years, and 9 between 20 and 30 years, and that of those recommended for family care, 40 had been in the hospital between 10 and 20 years, 24 between 20 and 30 years, and 10 between 30 and 40 years."

Work in Hand

The Commission has done its work to date from appropriations aggregating $110,000 for general expenses and for additional professional assistance in putting its recommendations to the test and into effect in the State Hospitals. Among its present activities are:

1. Continuing psychiatric surveys of hospital population in seven hospitals, and initiating such surveys in additional hospitals. Cooperation with several hospitals in carrying on a modified psychiatric survey plan, in view of shortages of personnel. Providing additional social service personnel for hospitals conducting such surveys, to aid them in developing their work so as to deal with the increased opportunities brought to light by the psychiatric surveys.
2. Completing the survey of the results of insulin shock treatment of some 1,100 patients who have received such treatment at the Brooklyn State Hospital, including a survey of what happened to a comparable group of patients who did not receive such treatment.
3. A study of the actual operation of the family care system as carried on in the different hospitals.

For Further Study

Additional subjects still needing study were listed as follows:

The system of records and reports in regard to patients; admissions; the bearing of syphilis control measures on the future population of State hospitals; research as to possible relationships of inadequate nutrition to mental illness; and vocational training, adjustment and employment of patients after parole or discharge.

The Commission expressed "its appreciation of Governor Lehman's deep interest in the welfare of persons suffering from mental illness or mental deficiency. During the decade of his service as Governor, this large number of unfortunate persons and their families, have at all times had a steadfast friend in the Executive Chamber."

Governor Praises Commission

Governor Lehman commended the Commission for its study and the reversal of the population trend in these institutions. He said that it opens the way to substantial savings to the State in maintenance of patients and in obviating the necessity of new construction. He warned, however, that keeping the number down will depend on continuing the methods and procedures recommended by the Commission, with adequate staff both in the institutions and for administering and supervising parole, family care, and further tests with new methods of treatment.

Mr. Folks emphasized that successful operation of parole and family care requires care in the selection, supervision and follow-up of patients returned to the community.

It was stated that lessening the congestion in the hospitals improves the standard of care both of patients remaining in the institutions and of those who can be housed and cared for outside.

Large Savings Possible

The fiscal implications of the above figures are substantial, the Commission points out. The annual increase in the resident population of the State Hospitals for the ten years, July 1, 1930-July 1, 1940, varying from 1,840 to 2,985, averaged 2,392 per year. If this average annual increase had continued for the next two years, July 1, 1940, to July 1, 1942, and for the four months, July-October inclusive, 1942, a period of 2 1/3 years, the number of patients in the State Hospitals on November 1, 1942, would have been 76,791, or 3,710 more than it actually was, 73,081.

The per capita cost of maintenance of patients in the State Hospitals for the year ended June 30, 1941 (not including construction costs), was $386.46. Of the 3,710 reduction in resident population, 231 represented patients transferred to family care who were still being maintained by the Mental Hygiene Department. This leaves 3,479 as the actual reduction in numbers of patients to be maintained by the State. The maintenance of 3,479 patients at $386.46 per year amounts to $1,344,494.34. It is recognized that the removal of these patients does not represent an actual and immediate saving of the entire cost of maintenance. It does so, approximately, as to items of food, clothing, and the like. On the other hand, costs of fuel, light, power, etc., and to some extent, of personal service, cannot be *immediately* reduced in proportion to a reduced number of patients. Nevertheless, the actual reduction within a relatively brief period would approximate closely the actual average per capita cost.

The average cost of building new State Hospitals (before it became impossible to build them at all) was about $4,000 per bed. To construct buildings for an additional 3,710 patients, the number of which exceeds the census of each of several existing State Hospitals, at $4,000 per bed, would amount to $14,840,000. This cost is actually postponed, or avoided indefinitely, to the extent that the reduction of 3,710 patients in the State Hospital census can be maintained.

Major Item in State Budget

The annual budget of the State Department of Mental Hygiene and the State institutions for the insane, mental defectives and epileptics is one of the largest of the State departments, approximating $34,487,000, and for the State Hospitals alone, about $28,000,000 a year.

Members of the Commission

The Commission appointed by the Governor consisted of Homer Folks, Secretary of the State Charities Aid Association, as Chairman; Stanley P. Davies, Ph.D., Executive Director of the Community Service Society of New York, whom the Commission appointed as its Vice-Chairman; Dr. Clarence O. Cheney, Medical Director of the Westchester Division of the New York Hospital; Miss Hester B. Crutcher, Director of Psychiatric Social Work, State Department of Mental Hygiene; Dr. Lawrence Kolb, of the U. S. Public Health Service; Dr. Nolan D. C. Lewis, Director, New York State Psychiatric Institute and Hospital; Dr. Frederick W. Parsons, former Commissioner of Mental Hygiene; Dr. William L. Russell, consulting psychiatrist, Payne Whitney Psychiatric Clinic, New York; Dr. George S. Stevenson, Medical Director, National Committee for Mental Hygiene; Dr. William J. Tiffany, Commissioner of Mental Hygiene, and Dr. Karl Bowman, of Bellevue Hospital, who removed to California in November, 1941.

Miss Katharine G. Ecob, Executive Secretary of the State Committee on Mental Hygiene of the State Charities Aid Association, served as Secretary of the Commission, and Miss Edith Holloway, formerly Assistant Director of the Family Welfare Association of the District of Columbia, as Assistant Secretary.

The Commission created a Committee on Newer Modes of Treatment, headed by Dr. Nolan D. C. Lewis as Chairman, and a Committee on Parole and Family Care, with Stanley P. Davies as Chairman.

Dr. Frank F. Tallman, Director of Clinical Psychiatry at the Rockland State Hospital, was detailed to the Commission as Director of its Committee on Parole and Family Care, and served until he accepted a position in Michigan. He was succeeded on the Commission's staff by Dr. Neil D. Black, of the Marcy State Hospital.

Miss Holloway made for the Commission "A Study of Social Services to Paroled Patients from Rockland State Hospital," and Miss Sue H. Mason, of the staff of the Brooklyn Bureau of Charities, "A Study of Social Service to State Hospital Patients Paroled in New York City." The Commission's report stated that the purpose of these two special studies was to throw light on the value of adequate social service in handling paroled patients and to better organization of parole in New York.

Dr. Benjamin Malzberg, of the Statistical Bureau of the State Department of Mental Hygiene, was loaned to the Commission to study extensive (but as yet incomplete) data on the results of insulin and other shock treatments in the State Hospitals, and a detailed memorandum from him on the subject was included as an "Appended Paper" with the Commission's report.

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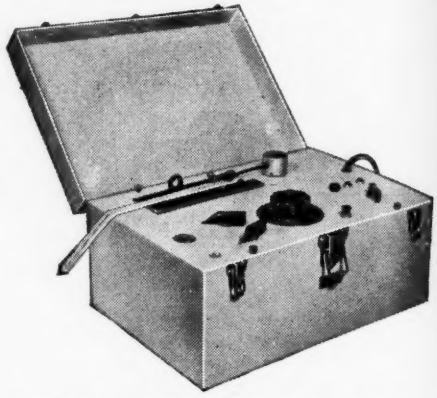

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